Recommended “Homework” for Rocketry Lesson 4 10/5/2018

Reading

* read Chapters 5, 6, & 7 in the High-Power Rocketry book
* read Chapter 21 in the Model Rocketry book (since the High-Power book doesn’t talk about simulations very much) – note that we will be using OpenRocket rather than RockSim for simulations because it is free

Exercises

* look through the “rocket motion” slides, to better-appreciate the challenge of using basic physics equations to predict rocket motion in this non-constant-acceleration situation
* download OpenRocket 15.03 and assign some people to learn to use it – practice by “flying” existing models (to better understand the graphs it generates and the options it provides) then go on to editing existing models and, ultimately, to generating models from scratch
* remember that we will be flying this fall using a Cesaroni “I-170 Classic” motor

Building

* continue to work on the airframe build, following the written build schedule – this week you should probably be gluing in the fins (one at a time) and also building the piston (and modifying the nose cone, if you didn’t get that done already)
* hold off on gluing in the bottom centering ring, followed by the motor retainer, until after you have finished ALL other tasks that need access to the space around the motor-mount tube (including inserting a rail button)
* remember to use high-temperature-tolerant J-B Weld for the motor retainer, which is the last part to go on

Document repository: *http://www.aem.umn.edu/people/faculty/flaten/Rocketry\_Remote\_Lessons\_Fall\_2018/*

Max’s evolving photo-build instructions – check back regularly: <https://docs.google.com/presentation/d/1oepk62CjsZubKPHbRcWFAOIm7tNdElkoKxc64FFhwU4/edit#slide=id.g42ec7e3ad3_0_5>